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Technical reserves in insurance and Slovak insurance market

Abstract. Currently, there are 37 insurance companies and branches of foreign insurance companies operating in Slovakia. The impact on results of operations of insurance companies have obligations to clients and investment activities. Insurance works by creating reserves, which are on the one hand intended to eliminate the negative financial consequences and the fulfillment of the obligations and, on the other hand, to realize their own investment policy. Control mechanism based on the establishment of technical provisions must guarantee, if necessary, their availability. Technical provisions in insurance are used as mathematical and statistical methods for calculating basic characteristics. Parametric trend estimation uses the method of least squares known from regression analysis. The starting point of the analysis is a set of data published by the National Bank of Slovakia for the period of 2004-2014. Identification of the trend in the technical insurance in the area of life and non-life insurance in the Slovak Republic for 2004-2014 has been realised taking into consideration three basic types of time series (linear, quadratic and exponential) as well as basic characteristics of the technical insurance were found out in order to create a model for the linear trend up to 2017. Prognoses of the technical insurance in life and non-life insurance for the 2013-2017 have been elaborated. The results show that profitability of the insurance sector has not fundamentally changed lately and remained sufficient. The solvency of the insurance companies increased significantly due to the profits of re-evaluation of the commercial papers in the portfolio for sales. In life insurance the growth of technical premium continues, although its structure has changed. In non-life insurance, negative trends continued in car insurance. It can be concluded that as a result of higher competitiveness, the insurance shows a downward trend and the profitability in the insurance sector is lower, however, insurance premiums remain sufficient.

Keywords: Insurance Market; Macroeconomic Indicators; Insurance; Prognosis; Insurance Premiums; Technical Provisions; Technical Insurance; Reserves

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Технічні положення страхування і страховий ринок Словаччини

Анотація. Страхування працює шляхом створення резервів, які, з одного боку, спрямовані на усунення негативних фінансових наслідків і виконання зобов'язань, а з іншого боку, на реалізацію власної інвестиційної політики. Створені технічні положення в галузі страхування повинні гарантувати, в разі необхідності, доступність резервів для покриття страхових зобов'язань. Регулятором галузі виступає Національний банк Словаччини. Відправною точкою нашого аналізу є набір даних, опублікованих Національним банком Словаччини за період 2004–2014 років. На підставі результатів можна зробити висновок, що рентабельність страхового сектора принципово не змінилася протягом останніх років і залишалася достатньою. У страхуванні життя продовжилося зростання технічної премії, хоча її структура змінилася. У страхуванні ризиків негативні тенденції тривають в автострахуванні. У цілому зросла конкуренція на ринку, що негативно позначається на прибутковості страхового бізнесу.

Ключові слова: страховий ринок; макроекономічні показники; страхування; прогноз; технічні резерви.

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Технические положения страхования и страховой рынок Словакии

Аннотация. Страхование работает путем создания резервов, которые, с одной стороны, направлены на устранение негативных финансовых последствий и выполнение обязательств, а с другой стороны, на реализацию собственной инвестиционной политики. Созданные технические положения в области страхования должны гарантировать, в случае необходимости, доступность резервов для покрытия страховых обязательств. Регулятором отрасли выступает Национальный банк Словакии. Отправной точкой нашего анализа является набор данных, опубликованных Национальным банком Словакии за период 2004–2014 годов. На основании результатов можно сделать вывод, что рентабельность страхового сектора принципиально не изменилась в течение последних лет и оставалась достаточной. В страховании жизни продолжился рост технической премии, хотя ее структура изменилась. В страховании рисков негативные тенденции продолжают в автостраховании. В целом возросла конкуренция на рынке, что негативно сказывается на прибыльности страхового бизнеса.

Ключевые слова: страховой рынок; макроекономические показатели; страхование; прогноз; технические резервы.

1. Introduction

Insurance is a specific type of goods which provide specific business entities - insurance companies. Among the important determinants of profit entities operating in the insurance, both life and non-life, are creation and use of technical reserves. Technical reserves are funds accumulated in parts of the insurance on the actuarial basis. They are managed by the insurance company for the purpose of fulfilling its obligations which result from insurance contracts by investment activities and presuppose optimal assessment of the capital market [1].

The investment activities of insurance companies have a direct impact on business results and incorrect decisions, respectively, incorrect investment activities of insurance companies can significantly impair the performance of future obligations to clients. It is therefore important to provide an effective control mechanism to guarantee the availability of technical reserves if necessary. Due to the technical provisions for the insurance company's costs in the balance sheet, they are presented as liabilities. This pushes them to a specific position in terms of the interests of more profit. For the calculation of the technical reserves, a portfolio of statistical methods is used. The process of calculation is very closely linked to the objective knowledge of the current situation at a particular insurance market. Objective knowledge, among other things, envisages reviewing financial results and prediction of possible developments in short and long terms.

Establishment of the technical provisions regulations has undergone significant changes in the last ten years on a global scale. The insurance market is very dynamic. Internationalisation and globalisation of insurance markets has brought a new quality. Facing the need to ensure certain security and stability of financial markets, there was created in the context of the correct construction of the technical provisions an internationally accepted regulatory mechanism and a formal legislative framework to control activities of insurance companies. To supervise their implementations at national level, certain institutions have been chosen. In the Slovak Republic the actions of insurance companies supervises the National Bank of Slovakia. After Slovakia joined the EU, foreign entities entered the insurance market, which stipulated the harmonization of law and implementation of the European Union legislation. To the entities operating in the insurance market of the Slovak Republic, supervised by the National Bank of Slovakia, belong insurance and reinsurance companies, branches of the foreign insurance companies from EU member states and branches of the foreign reinsurances companies from non-EU countries. Their activities are mainly regulated by the Act. 39/2015 Coll. on insurance and on amendments to the certain laws, specifying the conditions for the establishment of technical reserves in an amount sufficient to ensure that the insurance company is able to pay in full all the obligations of insurance undertaken which arises from the insurance contracts and liabilities of the insurance companies as well as from the activities under special regulations [2].

The aim of the insurance regulation of is to provide protection of policyholders and beneficiaries while promoting market stability through valuation and risk-efficient capital allocation. An essential pillar in the structure of insurance regulation is capital requirements for insurance and reinsurance activities with respect to potential risks - insurance, credit, market and operational.

Currently, there are 37 insurance companies and branches of foreign insurance companies operating on the Slovak market (table 1).

The aim of this paper is to analyse a data set in financial performance as well as work out a prognosis of insurance reserves development of life and non-life insurance companies in Slovakia, taking into consideration the period of time between 2013 and 2017.

2. Brief literature review

The issue of technical provisions and reserves in the professional and academic community is significantly communicated from different perspectives. Published papers are addressing the topic at many circuits and partial questions. One factor that affects the calculation of technical provisions is an assessment of the risk, which is a very complex problem [3-5] Expedient are analysis, evaluation and reports on regional and national levels that explain the specifics of a particular insurance sector [6-10]. The attention is paid at the application of mathematical and statistical methods and modelling in order to apply procedures that allow implementing processes which take into account all the elements for the calculation [10-12].

3. The structure of the technical reserves' resources placement

These **technical reserves' resources** represent temporarily available financial resources which the insurance companies place at the financial market with the purpose of their return and profit generation. Insurance companies handle such resources very carefully because they are serving for coverage insurance risks and activities. It is therefore suitable to establish certain limitations concerning unrestricted usage of such property resources in order to avoid devaluation of the technical reserves, which is also governed by the Act on Insurance. **The structure of the placement of resources of the technical reserves in the Slovak Republic in 2002-2012 is presented in figure 1.**

Tab. 1: Insurance companies operating in the Slovak Republic in 2015

According to the authorized activity	Number of subjects
Insurance companies and branches of foreign companies	37
Life insurance	19
Non-life insurance	32
According to the territorial scope	Number of subjects
Insurance companies established in the Slovak Republic	16
Foreign insurance companies operating in the Slovak Republic	10

Source: National Bank of Slovakia, 2016

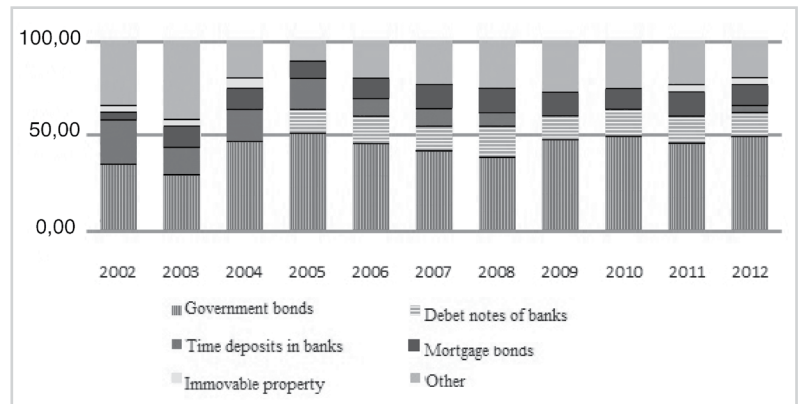


Fig. 1: Structure of the placement of resources of the technical reserves in the Slovak Republic in 2002-2012, %

Source: Authors' own elaboration according to the data of the National Bank of Slovakia

In ten year's time, the evaluation of the technical reserves, which we have observed from statistical bills, showed the following results described year after year until their final form.

As of 31 December 2004, insurance companies created technical reserves¹ in the total amount of EUR 1.70 billion, which corresponded to a year-on-year growth of 11.56%, out of which, the technical reserves in life insurance were created in the amount of EUR 1.37 billion and the technical reserves in non-life insurance comprised 333.3 million. The technical reserves in life insurance increased by 13.94% in non-life insurance, the technical reserves increased by 2.72%.

¹ Technical reserves from self-retention, i.e. excluding the shares of a reinsurer.

As of 31 December 2006, the value of the technical reserves was 3.44 billion, which corresponded to a year-on-year growth of 15%. The reserves of life insurance reached the value of almost 2.52 billion corresponding to 73% of the total technical reserves. Net technical reserves of the insurance companies had reached the value of EUR 3.15 billion by 31 December 2006 and amounted EUR 3.29 billion as of 31 December 2007.

The ratio of these reserves on the whole reserves was 95.8% as of 31 December 2009, the amount of reserves was EUR 4.47 billion. Technical reserves of the insurance companies increased by 11.3% during 2009. The principal source of increase was life insurance, in which the reserves reached the value of 3.45 billion and in non-life insurance they reached the amount of EUR 1.02 billion.

Technical reserves had reached the amount of EUR 3.78 billion by the end of 2009. The coverage of technical reserves by actives increased to 112%. In particular, insurance companies increased the holdings of government bonds and decreased their exposure to bank bonds and time deposits.

By the end of 2010, insurance companies had generated technical reserves in the amount of EUR 4.66 billion. In comparison with the previous period, they had increased by 7.2%, whereas the growth rate was slower mainly due to a slower growth of the technical reserves in life insurance.

By the end of 2011, the total amount of technical reserves of the insurance sector decreased to EUR 4.64 billion. This decrease was historically the first of the total volume of the technical reserves in the observed period².

The decrease was caused mainly due to the development in non-life insurance, in which the reserve for the fulfilment of insurance decreased by a 9% year-on-year (by 67 million). On the contrary, the reserves for the fulfilment of insurance increased by almost 16 million due to continual contract conclusion to the technical year and not to the calendar year.

After a drop in 2011, the total amount of technical reserves of the insurance companies started to grow again in 2012 and reached EUR 4.86 billion. Even though the reserves in life insurance continued to grow, they decreased again in non-life insurance similar to 2011.

In life insurance, the development was caused particularly by the growth of reserves in unit-linked insurance, which grew in comparison to previous year by EUR 147 million (17%). More than a half of this growth was caused by the growth of deficit reserves created on the basis of the test of sufficiency of the reserves, which increased by EUR 52 million. The growth of this reserve is probably linked to a decrease in interest rates.

In non-life insurance, technical reserves decreased year-on-year by EUR 27 million. All types of reserves in non-life insurance decreased, whereby the biggest impact had a decrease of the reserves related to the fulfilment of insurance, which dropped by EUR 17.5 million. It is important that this reserve reflects real estimate of risks and that it is not artificially decreased by the insurance company.

Actives covering technical reserves, except for the reserves for the coverage of obligations from the financial placement on behalf of the insured (RKZFUMP) had reached almost EUR 4.6 billion by the end of 2012, whereby their volume had increased by EUR 251 million. The coverage of technical reserves by actives increased to 119%.

The biggest increase corresponds particularly to government bonds, from which the majority is covered by the Slovak bonds. The volume of the bonds increased mainly due to the overpricing of the bonds in portfolios for sale and for business. Therefore, The ratio of government bonds in the actives covering technical reserves increased to almost 50%. The ratio of other classes of actives decreased, except for time deposits, the volume of which increased in comparison to previous year by 56% (60 million) and substituted part of company bonds, the volume and the ratio of which had dropped. The share of reinsurers on technical reserves, the volume of immovable property, stocks and shares are gradually falling.

In 2008, financial situation of the majority of insurance companies worsened in comparison with the previous year.

The total profit of insurance companies decreased by almost a half and reached the amount of EUR 108 million. The return of their equity dropped from 18.8% to 8.9% in 2007. The period of significant growth of profitability observed from 2003 stopped.

The negative development of financial markets was influenced by the profitability of actives, mainly by bigger insurance companies. The profit generated from the financial operations decreased by more than 76% if compared to the year 2007. If we abstract from unit-linked products, financial results of the insurance companies dropped by EUR 39 million (23%) if compared to the year 2007, mainly as a result of lower profitability of the actives of insurance companies.

Despite the unfavourable development of the insurance in the year 2008, which resulted in lower technical results, the total financial situation of the insurance sector improved in comparison with the previous year, since the year-on-year decrease on the technical account was compensated by an increase in profits from the financial operations.

The increase in profits of the entire sector was crucially influenced to the greatest degree by the increase in profits of the three biggest insurance companies.

These values, as well as the total profit of insurance companies, however, were falling behind the values of the 2006-2007 period.

In 2009, five insurance companies reported a loss, which is two times less than in the previous year³.

In 2010, after the previous more significant growth, the total amount of profits of the insurance sector fell by 2.9% to EUR 133.7 million. One insurance company influenced this result crucially.

The technical results reached EUR 127 million of the previous year's loss of EUR 75 million, which was the highest value in history. A large scale improvement occurred in insurance companies. The technical results improved by EUR 140 million in life insurance, by EUR 56 million - in non-life insurance and by EUR 6 million - in active insurance.

The improvement of technical results was caused mainly due to a decrease of loss ratio in property insurance, an increase in earned premium in life insurance and a decrease of deficit reserves on the basis of the test of sufficiency of reserves. The technical results were also improved by a significant decrease in reserve growth for unit-linked products by EUR 95 million, the development of which was, however, almost totally counterbalanced by the decrease in the financial results of actives covering unit-linked reserves. The drop of the financial results was caused almost entirely by unit-linked insurance.

The development of the profitability was different, however two thirds of insurance companies increased their profitability. Two of the insurance companies ended the year 2014 with a loss.

The profit was generated mainly due to the financial results and positive technical results in non-life insurance, whereas the technical results in life insurance were negative.

A decisive development was observed regarding the technical account of life insurance, which decreased in comparison to previous year by EUR 43 million to EUR 175 million. A decline occurred in almost all insurance companies. This development was influenced by several main factors: unit-linked insurance, deficit reserves, moderate growth of insurance and growth of costs on insurance fulfilments.

In 2014, the financial results rose by EUR 134 million and reached EUR 300 million due to the positive development of the financial markets. A financial result of investments, where the risks are borne by the client, increased by 135 million (this result increased in almost all insurance companies). Financial result of investments where the risks are borne by the insurance companies, increased by EUR 28 million. The financial results were positive for all insurance companies, although approximately one third of the insurance companies reported a year-on-year fall of the financial results.

³ Insurance companies which were transformed to branches of the foreign insurance companies in 2009 were not included in the total number, however the impact of the fusion of two insurance companies in 2009 was taken into account.

² Placement of the resources.

The technical results in non-life insurance have been positive at the average level for the last 5 years. Four out of thirteen insurance companies reached negative technical results from non-life insurance.

It can be concluded that the profitability of the insurance sector has not changed significantly in the last five years and remained sufficient.

By the end of 2014, the solvency of the insurance companies had significantly increased due to the profits from re-evaluation of the commercial papers in the portfolio for sales.

However, due to the falling interest rates, these profits serve only as a pillow in case of growth of interest rates

In the future, insurance companies should create reserves for losses from overestimation due to the growth of interest rates for the bonds, which are currently purchased into their portfolio.

4. Prognosis of technical insurance by time series

In order to identify the trend, we have considered three basic types of time series - linear, quadratic and exponential. By their application to the area of technical insurance in life and non-life insurance, we have obtained the results for the trend functions, presented in the table 2.

Technical insurance in life insurance shows a growing trend and a moderately declining trend in non-life insurance.

According to the importance of the coefficients, we gave preference to the model containing the linear trend. While choosing the appropriate model, we considered the following:

- the importance of the coefficients;
- the autocorrelation of residuals (based on the Ljung-Box test);
- Akaike information criterion.

The table 3 shows the basic characteristics (first difference and growth or decrease coefficient).

To conclude from the model above, we have elaborated a prognosis for the years 2013-2017. The results are shown in the figures given in the table 4. Prognosis of the technical insurance in life insurance in the Slovak Republic for the 2013-2017 period is shown in figure 2.

According to the analysis of the Slovak financial sector for the first half of the year 2013⁴ in the sector of insurance companies, it is stated that the growth of the technical insurance accelerated in comparison to previous year only moderately from 0.8% to 1.3% in the first half of the year 2013. The total amount of technical insurance in the observed period reached EUR 1.07 billion, which corresponds to the prognosis for the year 2013 (app. EUR 2.00 billion).

According to the abovementioned analysis of the first half of the year 2013, the growth of technical insurance was impacted by life insurance along with technical insurance in the amount of EUR 0.57 billion (3.8% growth in comparison to previous year), mainly common life insurance and complementary insurance.

If compared to the previous periods, the most significant change is represented by a decrease in technical insurance of investment insurance products, the so-called unit-linked insurance, constituted by a year-on-year decrease of 4.6% to the amount of EUR 171 billion. The share of unit-linked products on the insurance market dropped under 30%. The annual insurance, including new production, reported a year-on-year decrease of 11.2% or 14.8%. However, despite this fact, the new production continues to represent a major part, almost 15% of the annual insurance. Slower growth of the insurance contracted in the unit-linked sector and was also impacted by a growing number of insurance fulfilments due to surrenders (redemption) and survival benefits (the insured amount is paid after enriching stated age), even though the growth rate was slowing down. The frequency of surrenders was at the level of 6.2% (5.9% in June 2012) and the year-on-year growth of the surrender cases decreased from 20% to 6.5%.

The total amount of surrenders corresponded to 4.5% of the technical reserves in unit-linked sector (4.9% in June 2012). In contrast with unit-linked insurance, common life insurance

⁴ Analysis of the Slovak financial sector for the year 2013: http://www.nbs.sk_img/Documents/_Dohlad/ORM/Analyzy/protected/AnalzyzaSFS2013

Tab. 2: Identification of the trend in the technical insurance in the area of life and non-life insurance in the Slovak Republic, 2004-2014

Life insurance	
Linear trend	$y_i = 0.488364 + 0.0652727i$
Quadratic trend	$y_i = 0.337455 + 0.134923i - 0.0058042i^2$
Exponential trend	$y_i = \exp(-0.646272 + 0.0806684i)$
Non-life insurance	
Linear trend	$y_i = 0.835636 + 0.0143636i$
Quadratic trend	$y_i = 0.657455 + 0.0966014i - 0.00685315i^2$
Exponential trend	$y_i = \exp(-0.191362 + 0.0175186i)$

Source: Authors' own elaboration according to the data of the National Bank of Slovakia

Tab. 3: Basic characteristics of the technical insurance in the area of life and non-life insurance in the Slovak Republic, 2004-2014

i	Rok	Life insurance			Non-life insurance		
		y_i	${}_1d_i(y)$	$k_i(y)$	y_i	${}_1d_i(y)$	$k_i(y)$
1	2004	0.52	xxx	xxx	0.69	xxx	xxx
2	2005	0.57	0.05	1.1	0.83	0.14	1.2
3	2006	0.64	0.07	1.12	0.95	0.12	1.14
4	2007	0.74	0.1	1.16	1	0.05	1.05
5	2008	0.85	0.11	1.15	0.94	-0.06	0.94
6	2009	0.95	0.1	1.12	0.96	0.02	1.02
7	2010	1.1	0.15	1.16	1	0.04	1.04
8	2011	1.03	-0.07	0.94	0.96	-0.04	0.96
9	2012	1.08	0.05	1.05	0.94	-0.02	0.98
10	2013	1.09	0.01	1.01	0.95	0.01	1.01
11	2014	1.11	0.02	1.02	0.92	-0.03	0.97

Source: Authors' own elaboration according to the data of the National Bank of Slovakia

Tab. 4: Prognosis of the technical insurance in the area of life and non-life insurance in the Slovak Republic for the 2013-2017 period

i	Year	Life insurance			Non-life insurance		
		y_i	Confidence interval 95%		y_i	Confidence interval 95%	
12	2013	1.12073	0.953648	1.28781	0.887733	0.765947	1.00952
13	2014	1.11055	0.905916	1.31518	0.887733	0.627925	1.14754
14	2015	1.08876	0.835432	1.34208	0.887733	0.541079	1.23439
15	2016	1.05536	0.743157	1.36756	0.887733	0.471996	1.30347
16	2017	1.01035	0.629864	1.39084	0.887733	0.412858	1.36261

Source: Authors' own elaboration according to the data of the National Bank of Slovakia

reported positive growth in technical insurance after two years of decrease in the first half of the year 2013. In June 2013, the amount of technical insurance reached EUR 314 million, which corresponded to the year-on-year growth of 7.6%.

The volume of insurance fulfilment in the first half of the year 2013 was equal to the amount of EUR 292 million, which corresponded to the year-on-year growth of 7% (mainly surrenders, similarly to the case of unit-linked insurance), which accelerated the sector in comparison with the same period of the previous year by 4 percentage points. The number of insurance fulfilments dropped for more than 7%.

On the other hand, non-life insurance continued in a negative trend in the area of the technical insurance (EUR 0.5 billion, a decrease of 1.5% in comparison to the previous year). This development was impacted particularly by liability insurance and car insurance. The real values of the first half of the year 2013 showed the validity of the prognoses.

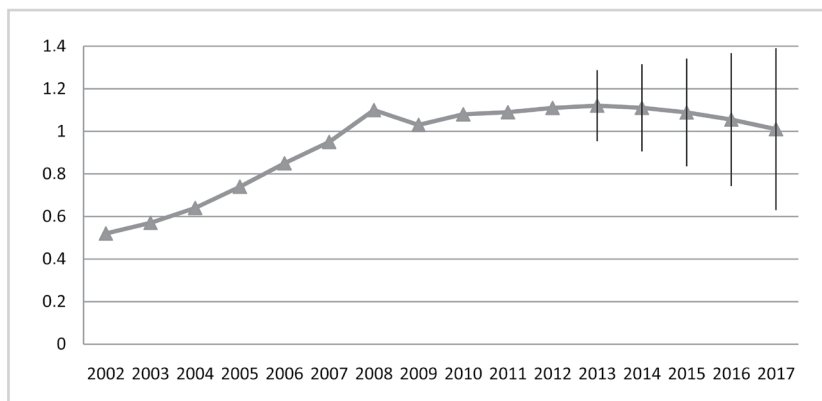


Fig. 2: Prognosis of the technical insurance in life insurance in the Slovak Republic for the 2013-2017 period, EUR billions

Source: Authors' own elaboration according to the data of the National Bank of Slovakia

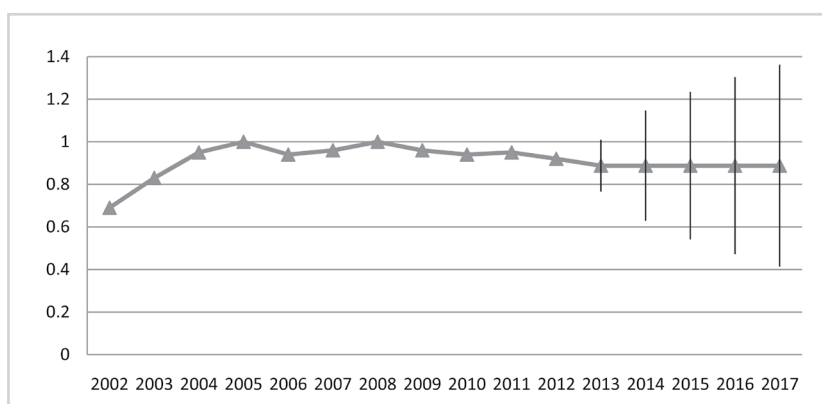


Fig. 3: Prognosis of the technical insurance in non-life insurance in the Slovak Republic for the 2013-2017 period, EUR billions

Source: Authors' own elaboration according to the data of the National Bank of Slovakia

Prognosis of technical insurance in non-life insurance in the Slovak Republic for the 2013-2017 period is presented in the figure 3.

Technical insurance in non-life insurance has been dropping from 2009, except for the year 2011. The development was impacted mainly by car insurance in the first half of the year 2013.

The most significant drop of technical insurance, represented by the amount of Euros from 7.5 million to 147.4 million (-4.9% year-on-year), was observed with regard to liability insurance. This development was influenced by a long-lasting decrease in the insurance amounts of new (-4.7% in comparison to the previous year) and prolonged contracts (-6.3% in comparison to the previous year). The growth of the insurance contract numbers slowed down in the first half of the year 2013 (2.1% year-on-year), however, in comparison with the year 2012, new production transformed from contraction of -10.7% to expansion of almost 5%. Although the number of claims dropped in comparison to the previous year by approximately 6.5%, while the total amount of claims increased by almost 4%.

Technical insurance in the area of collision coverage at the level of EUR 124.5 million showed, similarly to liability insurance, a year-on-year decrease, which slowed down from -5.5% in June 2012 to -3.8% in June 2013. The average insurance for one contract was falling down in particularly new production (-10.4% in comparison to the previous year, in June 2013, the decrease represented -18.9%). The decrease of the average insurance price for one contract was slightly less aggressive in prolonged contracts (-5.2%), however, if compared to the year 2012, it accelerated (2012 a decrease of -2.2% in June). In the observed period, the number of the insurance fulfilments increased their volume significantly

(7% in comparison to the previous year) and predominantly (10.5% in comparison to the previous year).

The development of technical insurance and the volume of costs for the insurance fulfilments in the area of collision insurance had a negative impact on the technical results. A particularly high loss ratio and continual reduction of the insurance pushed the combined index in the collision insurance over the edge of 100%.

In the area of property insurance, technical insurance grew in comparison to the previous year only moderately at the level of 1.6% and reached the amount of almost EUR 130 million. In the insurance sector, the new production dropped by 13%, however, the year-on-year volume of prolonged contracts increased by more than 5%. The costs on the insurance fulfilments during the first half of the year 2013 decreased significantly in comparison to the previous year by 23.4%, whereas the number of the insurance fulfilments decreased only moderately.

The profitability and solvency of the insurance companies did not change fundamentally. The profit of the insurance sector reached EUR 158 million, representing a 16% year-on-year increase in 2013. In 2012, the profit was influenced by one-time impacts (for example: a change of assessment of the property participation in subsidiaries, etc.). After the consideration of such impacts, the profit changed in comparison to the previous year only minimally. The development of the profit in the individual insurance companies was different. Two of the insurance companies reported a loss, but the combined loss decreased from EUR 12.5 million in 2012 to EUR 1 million.

The technical results of non-life insurance decreased by approximately one third to EUR 40.7 million. In particular, that decrease involved a decrease in the survival benefit, as

well as a moderate increase in the costs for insurance fulfilment and operational costs.

On the contrary, the technical results of life insurance improved year-on-year by EUR 104 million. The major factors included the growth of survival benefit, slow-down of the growth of costs for the insurance fulfilment and particularly a significant slow-down of the growth of unit-linked reserves by EUR 67 million, approximately two thirds due to a decrease in the profits from the investments, where the risks are borne by the client.

Technical insurance accelerated after two years in 2013 to in comparison to the previous year 5.3%. In comparison with the previous two years, the insurance grew mainly in common life insurance, which constituted by 7.2% and occurred for the first time from the year 2007. There could be observed an increase involved mainly new production (14%) and annual insurance (6%), despite the fact that there occurred 4% decrease in the number of contracts. This growth may correlate with the decrease in the technical interest rate from 1 January 2014 to 1.9%, which will result in higher prices of the insurance.

5. Conclusions

One part of this article consists of the application of the time series to the data set in order to determine a prognosis of technical insurance for the 2013-2017 period by using of point and interval estimates of the division. The main task is to determine the basic tendency of their development, i.e. specification of their trend. The trend is determined by analytical methods, i.e. by trend functions.

The results of the statistical analyses are compared with the official published data of the National Bank of Slovakia for the first half of 2013.

Concurrently, it is estimated that the technical insurance in non-life insurance will vary around the amount of approximately EUR 0.89 million.

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